Long/Short Funds - A Guide for Fund Administrators

The Details Matter.

JPMorgan

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The Details Matter.

The search for higher returns has seen fund managers pushing the boundaries to achieve their investment goals.

There is demand from institutional and, increasingly, retail investors for transparent products offering prudent investment styles, within familiar regulatory frameworks, but involving a limited degree of shorting. As a result, active enhanced strategies such as long/short funds, long the province of the hedge fund manager, are now being emulated by managers of mutual funds and other similar structures around the globe.

But concern with investment returns is not the full story. In the highly regulated world in which many of our fund manager clients operate, risk, compliance and operational issues are also major concerns. Many find adapting their back- and middle-office systems — often originally designed for long-only funds — to be a major challenge.

Operations, valuation and exposure issues are a big headache for fund administrators and can prove costly – lower returns, higher administration costs, regulatory and reputation problems — these are all possible consequences of getting it wrong.

This guide has been written, therefore, to explore the world of long/short investing from the point of view of the fund administrator, to highlight the administrative issues arising from managing funds that include physical short and synthetic portfolio positions, and consider some of the ways these issues can be mitigated.

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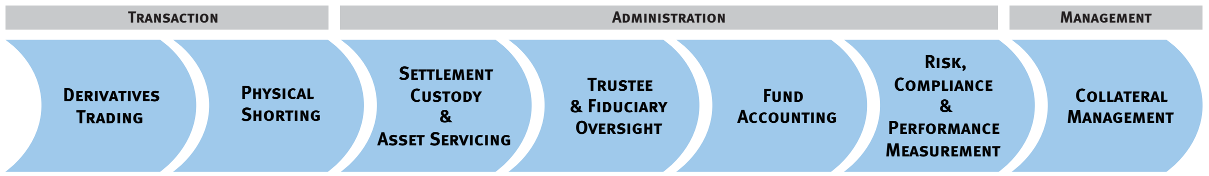
The Value Chain and the Key Fund Administration Issues That Arise



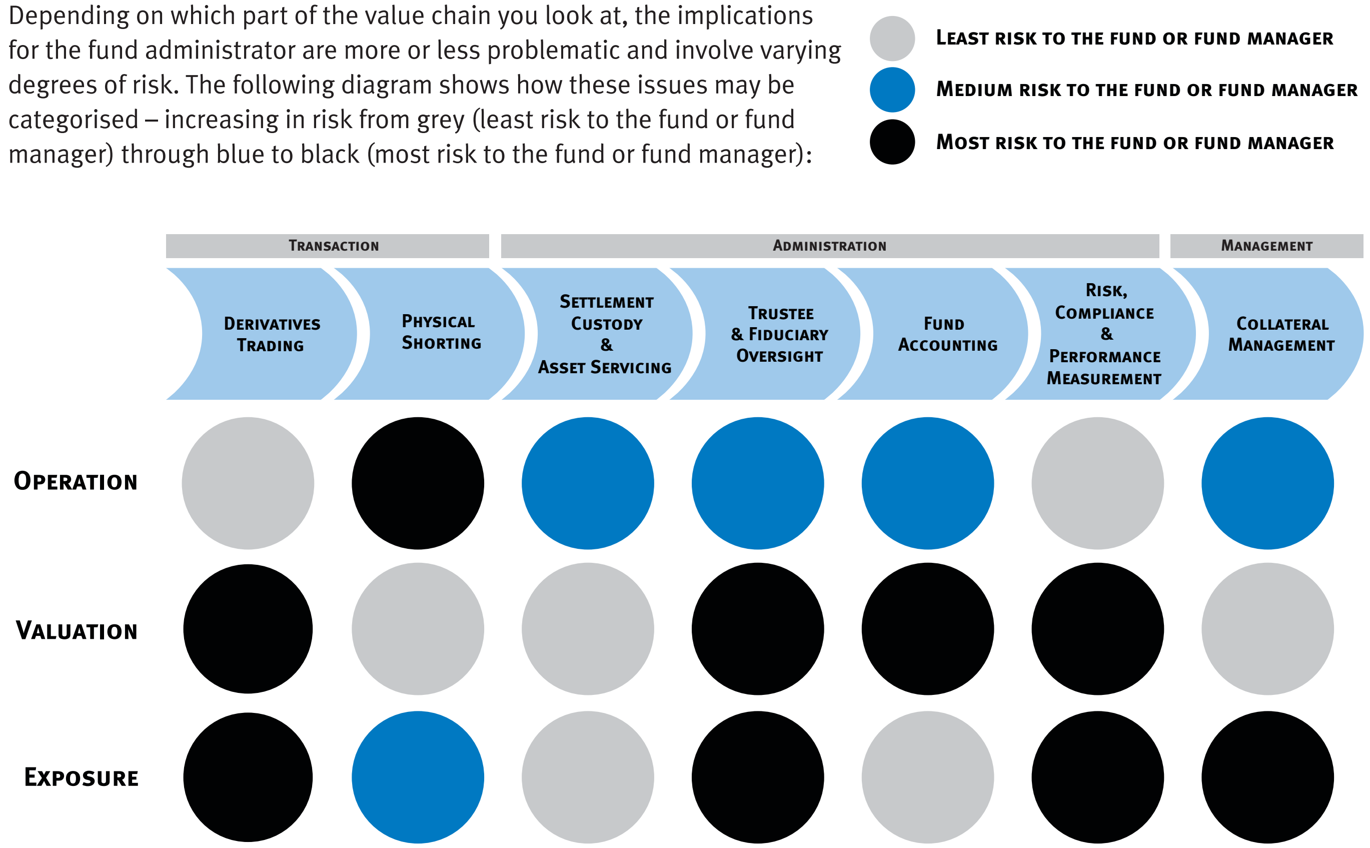
The Fund Value Chain

The value chain for operating a long/short fund is, in many respects, the same as that of the long-only fund. However, when a fund is engaging in an enhanced investment strategy, there are a number of issues for the fund administrator that do not occur in the long-only world. At the highest level, these can be categorised as: operational, valuation and exposure. They all influence the degree of risk taken on by the fund and the fund manager.

The costs of getting it wrong can be sizeable – not only financially, but also in terms of market reputation and regulatory censure.

Risk Issues

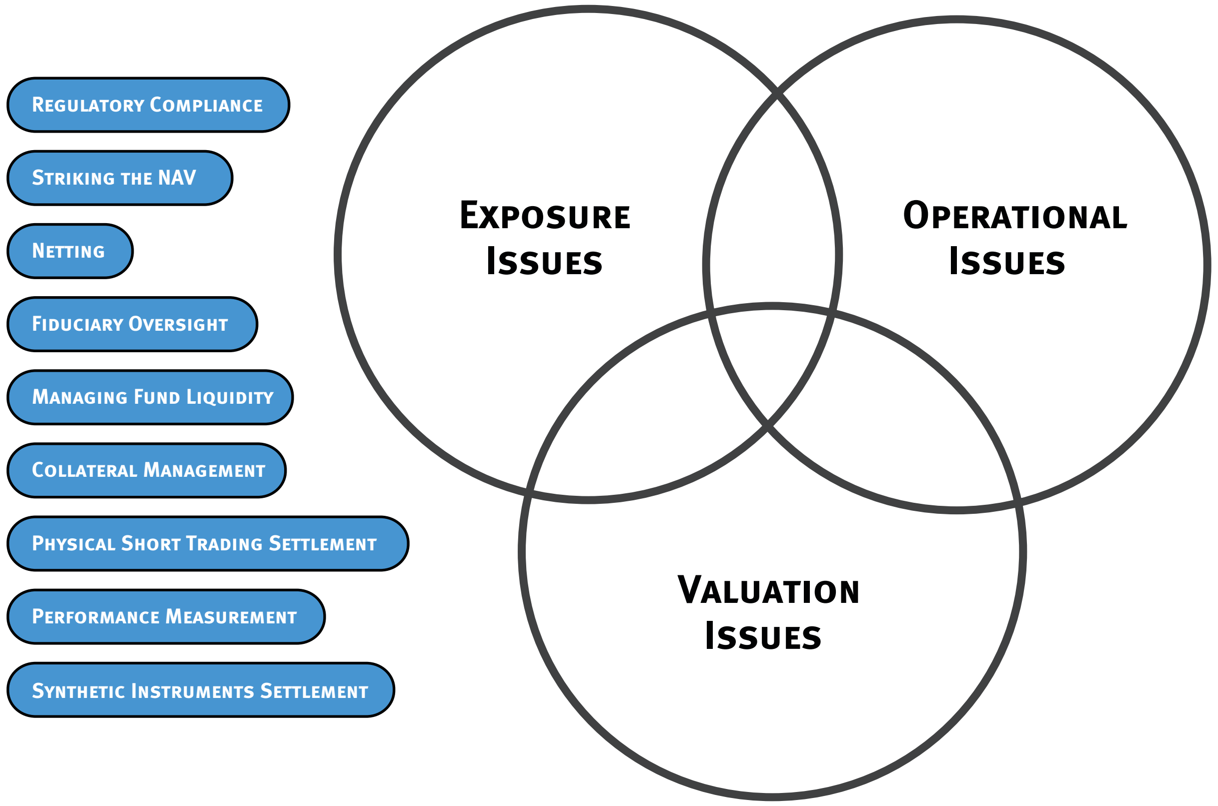
Depending on which part of the value chain you look at, the implications for the fund administrator are more or less problematic and involve varying degrees of risk. The following diagram shows how these issues may be categorised – increasing in risk from grey (least risk to the fund or fund manager) through blue to black (most risk to the fund or fund manager):



Black-Blue-Grey ratings for degree of risk experienced

Steps That Can Be Taken to Mitigate These Increased Levels of Risks

Fund Administration Tasks and Issues

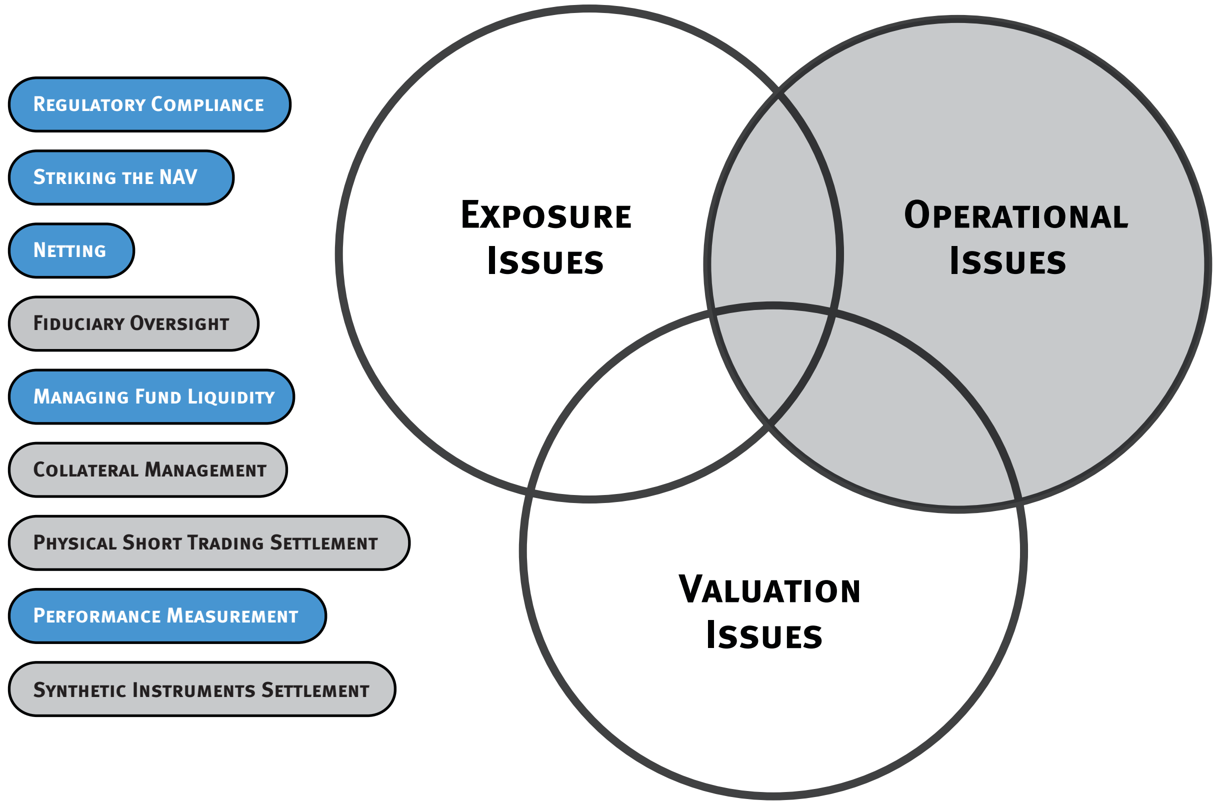


Fund administrators faced with the increased demands of managing a long/short fund will need to look carefully at their in-house systems, processes and staff and consider if they are up to the job. If they are not, then they have a number of options — which can be combined in accordance with the managers' specific requirements.

1. Buy in more in-house expertise and systems
2. Rely on the services of a prime broker
3. Outsource part or all of their back- and middle-office functions to a third-party provider

The following pages will take each of the operational, valuation and exposure issues in turn. We will consider how the issues manifest themselves in respect to the functions of the fund administrator and also look at and how they can be managed or mitigated to reduce the overall risk to the fund and/or manager.

Operational Issues



> “…as any cash instrument, [OTC derivatives] are subject to a series of events which must be managed continuously.”

Operational issues for fund administrators arise largely from the need to account for short positions on systems that may have been designed to handle long-only positions, and to account for synthetic instruments (long and short) where only physical assets have been traded previously. Some examples of the types of operational issues that can arise are as follows:

Physical Shorts

Collateral: As the value of the borrowed securities, as well as the pledged collateral, is marked to market daily, the borrower needs the ability to validate requests for additional collateral, as well as systems to issue instructions to pay and receive daily collateral movements.

Manufactured Income: The lender retains all rights of economic ownership in the lent securities. As a result, the borrower is obliged to make similar payments to the lender in lieu of the actual income. To manufacture these payments, a borrower must have knowledge of the lender’s withholding tax status.

Corporate Actions: Borrowers will need to implement processes for monitoring pending corporate actions on borrowed positions. For the duration of the loan, the title to the lent securities passes to the borrower. As a result, the borrowed position may be impacted by corporate actions announced by the issuer. Such impacts could include, among other things, a return of shares to the lender.

Recall Risk: A lending agreement will contain clauses entitling the lender to recall a loan at any time, unless otherwise agreed, and ensuring prompt return of stock by borrower. In such a situation, a borrower needs ready access to other lending sources to avoid the potential of buying the security at a higher price than the short sales.

Synthetic Instruments

Contract for Difference (CFD): A long/short manager will often engage the services of a prime broker to provide a portfolio swap (basket of derivative instruments) to achieve a synthetic short position. Prime broker reconciliation will be required to ensure the integrity of the content of the swap basket. The prime brokers providing the swap service do not ordinarily support SWIFT standards, so a scalable proprietary reconciliation system is

required to capture inputs. The reconciliation will focus on the positions, market value, accrued income and cash.

Additional complexity can exist within the reconciliation, depending on the setup of the swap. For example, if the CFDs are all held in a single base currency, regardless of the trading currency, then currency conversion rates will need to be accounted for.

OTC Derivatives: Fund managers may also choose to manage their own swap portfolios. As the size of a synthetic portfolio grows and the types and complexity of the instruments increase, administration problems arise. With 50 open positions, it may still be possible to keep control via a spreadsheet alone. But once the number rises to around 500, things are not so simple.

OTC derivatives are instruments with a distinctive trade life cycle, as any cash market instrument, and are subject to a series of events which must be managed continuously.

Fund accountants may increasingly find that to accurately record transactions, monitor them through their trade life cycle and provide valuations based on sophisticated modelling can be an expensive proposition — both in terms of systems and resources.

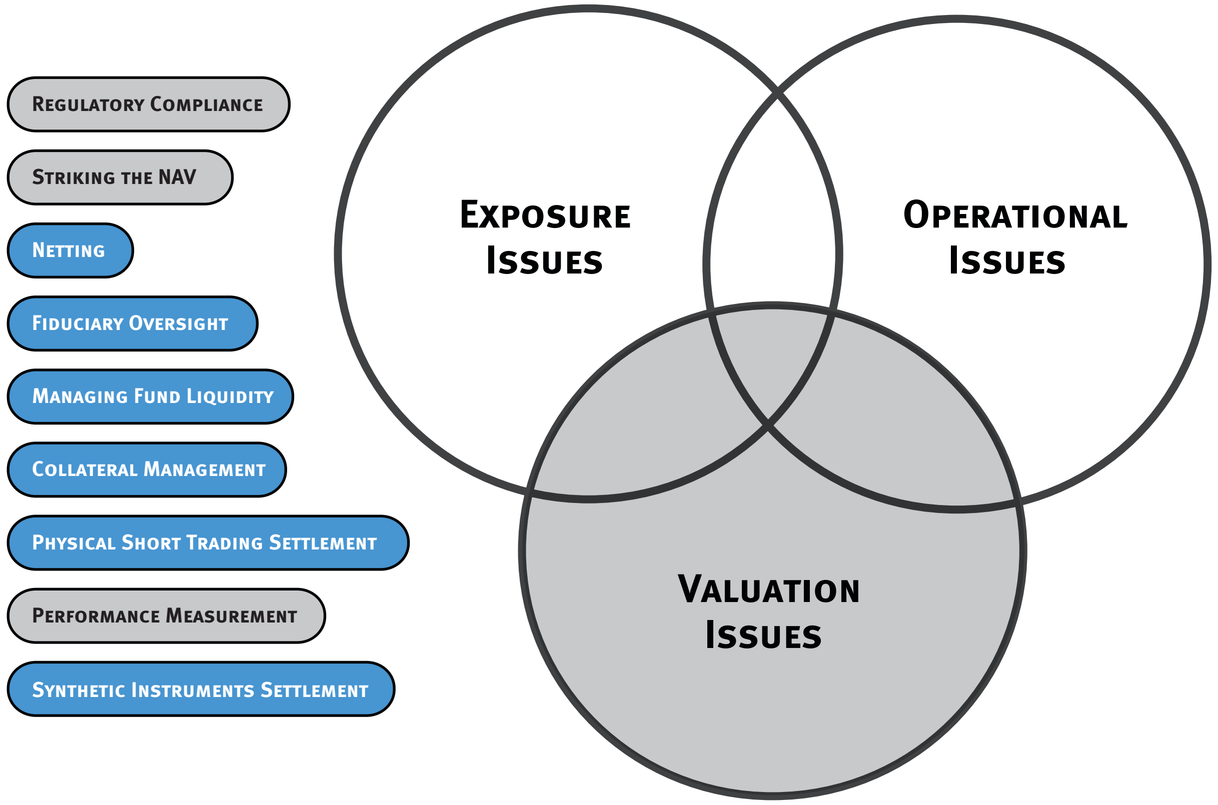
Collateral

Managers must ensure they have sufficient cash to meet the collateral and margin calls required for physical short positions and derivatives contracts. In order to ensure cash is available, managers may find they are obliged to hold substantial long balances of cash in a fund ostensibly set up as equities only.

In the case of UCITS III, managers will also need to ensure they comply with the requirements of the fund’s trustee or depository bank. The trustee or depositary will wish to establish that the maintenance of adequate liquidity and pledging of collateral do not inhibit discretionary buying or selling of stock. Issues may arise as the trustee or depository bank has a regulatory obligation to provide oversight of the collateral used in derivative transactions. Systems need to be put in place to ensure this oversight can be carried out appropriately.

> “…issues for fund administrators arise largely from the need to account for short positions on systems that may have been designed to handle long-only positions.”

Valuation Issues



In order to deal with the complexity of deriving accurate valuations, traditional hedge funds employing long/short strategies often include clauses allowing them to close funds or strike valuations at various intervals that suit the manager. However, in the more strictly regulated world of the UCITS fund, the NAV is struck daily, or even intraday. Striking the NAV is a crucial part of the fund administration process, and the valuation of OTC derivatives is complex.

Contract for Difference (CFD)

Many long/short funds make use of a portfolio swap basket or CFDs for the 30/30 (or equivalent) portion of their portfolio. These baskets of instruments may be made up of a combination of physical assets, on-exchange derivatives and OTC derivative positions.

The fund administrator requires an accurate valuation of the CFD in order to strike the NAV. This may be received from the prime broker. However, while the valuation of underlying physical and on-exchange derivatives assets is relatively straightforward, OTC derivative valuation will depend on the in-house valuation model used by the prime broker.

Resets: As the individual components of a portfolio swap increase or decrease in value, the overall value of the swap is affected. In order to minimise exposure — and, therefore, collateral requirements — a swap is often reset on a monthly or ad hoc basis. For a regulated fund that requires daily or even intraday NAVs, this will be problematic.

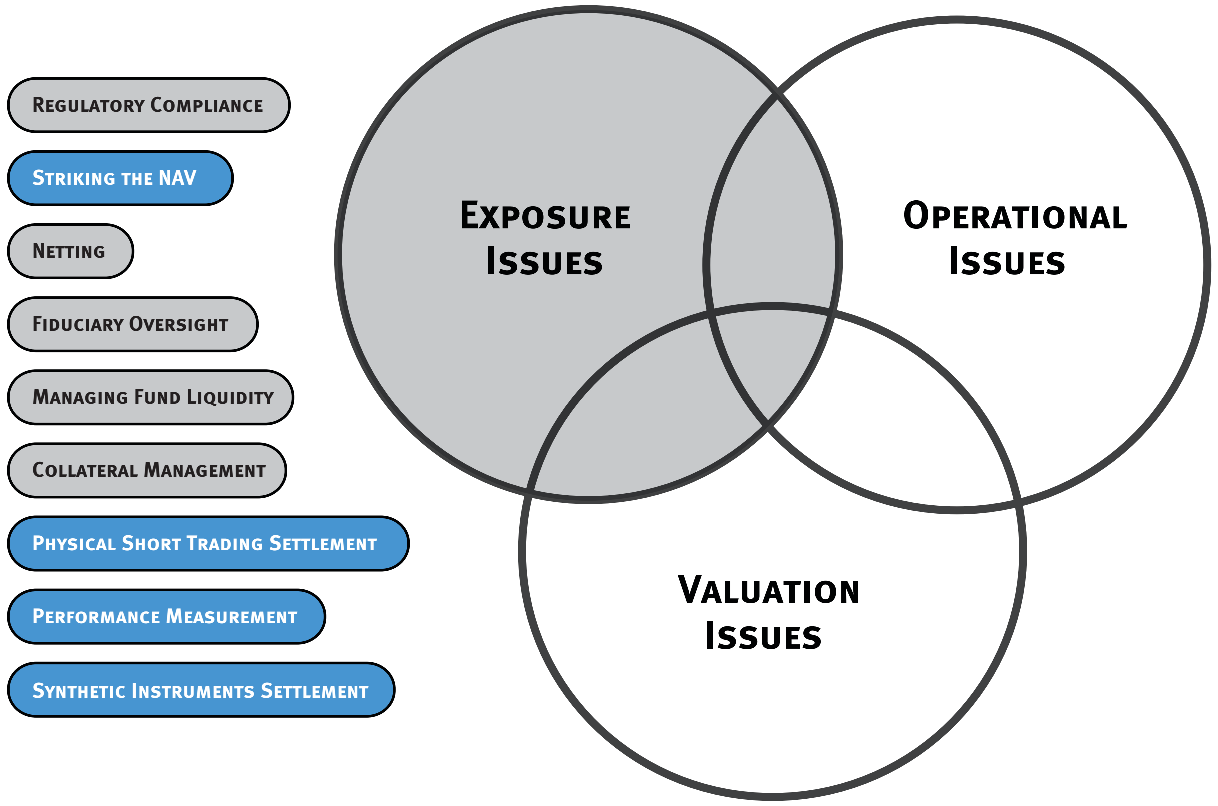
Independent Valuations: Many regulated funds are required to value derivative instruments within their portfolios independently from the provider (e.g., prime broker). Although the valuation can be carried out by the in-house middle office, if the instrument is over the counter (as CFDs invariably are), this often requires a sophisticated modelling capability, which is expensive for fund managers to develop or scale.

Value-at-risk (VaR): This method is recommended by the European Commission as the preferred way of measuring risk exposure for 'sophisticated' UCITS throughout Europe. The UCITS must apply stress tests in order to help manage risks related to possible abnormal market movements. Stress tests measure how extreme financial or economic events affect the value of the portfolio at a specific point of time.

However, in order to calculate the VaR, managers of regulated long/short funds are required to 'look through' any derivative positions to the underlying assets to calculate the gross — or where appropriate, net — risk exposures on a daily basis.

“...the valuation of OTC derivatives is complex.”

Exposure Issues



While measuring exposures may be relatively straightforward in the long-only world, using derivatives and shorts adds a number of complications:

Credit Exposure

The fund prospectus may determine the size of permitted exposures to particular issuers, industries, markets, etc. In the long-only world, the measurement of such exposures is straightforward. However, once again, the use of shorts and derivatives can bring challenges, including:

Derivative Valuations: The prime broker will typically provide the manager with a valuation for derivatives contracts; but to fully account for credit exposures, the manager will need to understand and 'look through' to the underlying elements within the basket.

Liquidity: Given the sometimes illiquid nature of a CFD, for example, it may be the case that if an excessive exposure is identified, the fund may be unable to unwind the position straightaway. This lack of liquidity needs to be accounted for within the fund's operating model and managed accordingly.

Netting: A fund manager may seek to reduce credit exposure by the use of netting; however, this can be complex. It will be necessary to employ system logic that can net derivative positions where the two positions deal with the same underlying asset, and also where the derivative provides sufficient market risk coverage for the underlying position. There must be strong correlation of the assets such that there is an "undeniable and manifest" risk reduction effect. This system logic is critical for compliance with UCITS III and U.S. Investment Company Act of 1940 asset segregation reporting.

Transparency: Institutional and retail investors alike may not be aware of the relative risks of these products, compared with more 'traditional' asset management

"...using derivatives and shorts adds a number of complications."

products, because of a lack of information transparency about the underlying exposures they are taking on.

Regulatory Compliance: Many regulated funds must adhere to exposure limits. UCITS III, for example, seeks to minimise the risk to investors in a fund by limiting the exposure a fund may have to any one issuer — 5% of its assets in a single issuer — although a member state may raise this limit to 10%. Exposure monitoring issues may lead to an inadvertent breach of such limits.

Counterparty Exposure

Total exposure to counterparties will be affected by the collateral provided to, or received from, the derivatives counterparty. Collateral and margins will fluctuate on a daily basis dependent on the mark to market or, in the case of OTC derivatives, mark to model valuation.

Counterparty Limits: In the regulated world, funds are subject to specific counterparty exposures. Under FSA rules, for example, OTC derivative exposure is limited to 5% of the value of the fund per counterparty or 10% if the counterparty is an 'approved bank'. A fund that is fully invested through OTC derivatives is obliged by regulation to deal with between 10 and 20 separate counterparties.

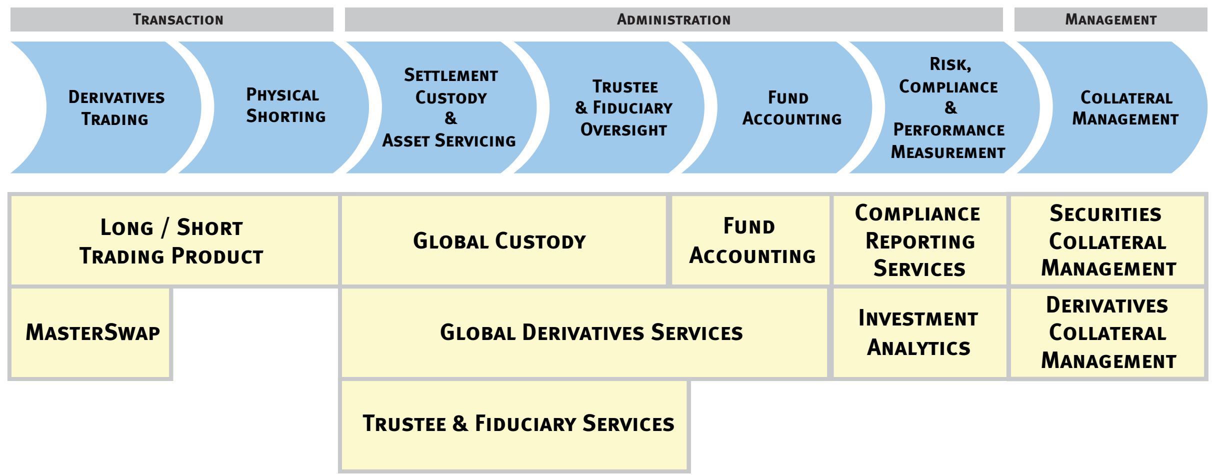
Netting: A fund manager may also seek to reduce counterparty exposure by the use of netting; however, this is not always straightforward to achieve from a legal perspective. For example, ISDA has obtained legal opinion on the enforceability of netting for UCITS III funds in only five of the 15 most important European Union jurisdictions.

How Can JPMorgan Help a Long/Short Fund Administrator?

JPMorgan has been working with its clients to structure multiproduct solutions across the entire firm to meet the specific needs of long/short funds and to help its clients mitigate the increased issues and risks that they face. Building on our expertise in derivatives, securities lending, trust and fiduciary services, compliance and custody, we have built a set of solutions which we believe to be unique in the industry. These solutions directly address all issues outlined above.

Key features and benefits of JPMorgan's long/short capabilities

- State-of-the-art systems and reporting technology fully integrated across the value chain
- Comprehensive one-stop shop across the firm
- Many years of experience working with the world's leading fund managers
- Strong relationships with all key market players



JPMorgan's products and services for long/short funds

JPMorgan's Solutions

> "...there is a significant benefit in consolidating with a global custodian offering automated settlement, custody and asset servicing of both components of the portfolio."

Transaction Solutions

Long/Short Trading Services

Funds that physically short need facilities for borrowing securities to satisfy settlement requirements. The borrow position is maintained until the fund decides to close it out by purchasing the stock outright and returning it to the lender. The borrower is required to post collateral in exchange for the borrowed securities. If cash is pledged, the lender will reinvest the cash and rebate only a portion of that income back to the borrower. If securities are pledged, the lender will charge a basis point fee on the notional value of the borrowed securities.

JPMorgan offers an innovative alternative complementary service for its custody clients that offers a cost-competitive alternative for securities sourcing:

- Short positions covered from the custody accounts or externally through JPMorgan Securities Inc.
- Use of long securities positions or cash as collateral to cover borrowing requirements
- Use legal documentation designed to work in conjunction with client's global custody agreement
- Short trading anonymity
- Access to depth and breadth of market supply through JPMorgan Securities
- Reduce or eliminate transparency
- Reduce or eliminate market spreads
- Comprehensive administration service integrated with JPMorgan's other services

MasterSwap

MasterSwap is JPMorgan's ISDA-governed total return portfolio swap solution which allows managers to synthetically short (or synthetically go long) equities or bonds. MasterSwap has been providing long and short exposure synthetically to various managers since 2003, and is a fully scaleable UCITS III-compliant product, which also provides many of the functions normally associated with prime brokerage.

With MasterSwap, clients have the ability to gain exposure to global equities, and convertible and corporate bonds, synthetically removing many of the complications associated with settlement and clearing of the physical security.

Administration Solutions

Global Custody for Short Trading Positions

While it is possible to operate the physical short components of the funds independently of the long positions, there is significant benefit in consolidating with a global custodian offering automated settlement, custody and asset servicing of both components of the portfolio. The benefits of such an approach include consolidated reporting, improved transaction flow control, enhanced ability to exploit portfolio synergy (between long and short components) and enhanced risk and operational control.

JPMorgan offers a flexible, integrated product offering to support our clients' expansion into physical short selling.

Global Custody

- Full support for electronic processing of short positions via SWIFT or our proprietary system, JPMorgan ACCESS℠
- Support for trade entry and reporting
- Unparalleled control and detailed tracking of all positions, whether asset or liability
- Emphasis on straight-through processing, including support for prematching where applicable
- Commitment to upgrade as each country's support for long/short strategies evolves

Asset Servicing Capabilities

- Entitlements and liabilities resulting from corporate actions tracked and added to the fund positions
- Options for voluntary corporate actions advised to the client electronically
- Entitlement or liability will be added to the segregated positions within the fund

Global Derivatives Services

An accurate valuation of any derivative instruments within a portfolio (whether held as separate holdings or as part of a basket of assets) is needed in order to strike the NAV. While the valuation of on-exchange derivatives assets is relatively straightforward, OTC derivatives present some unique challenges. With no liquid secondary market or benchmarks to rely on, fund administrators have to consider alternative ways to more accurately value their holdings.

JPMorgan's Global Derivatives Services (GDS) unit was set up to provide centralised solutions to OTC derivatives control challenges, merging the OTC derivatives operational support groups within its investment bank and Investor Services divisions to leverage firmwide expertise and form an OTC derivatives centre of excellence that the entire bank and its clients can draw upon.

- Provides clients with a quick entry into a broad range of OTC derivative instruments
- Access to industrial-strength systems architecture
- Minimum requirements for up-front client investment in people and systems
- Full integration with JPMorgan's other products and services

Trust & Fiduciary Services (for UCITS funds)

The role of the trustee/depositary in regulated funds is well understood in the long-only world. However, some unique challenges arise when a fund adopts a shorting strategy.

Short trading may require the use of a prime broker. The trustee/depository will need to be satisfied that the fund does not lose control of any of the underlying assets and that the maintenance of adequate liquidity and the pledging of collateral does not inhibit discretionary buying or selling of stock.

A fund will also establish relationships with new counterparties. The trustee/depositary will review contracts to ensure that investor interests are protected and independent valuation may be obtained. The trustee/depositary will wish to establish that the pledging of collateral does not inhibit discretionary buying or selling of stock as it has a regulatory obligation to provide oversight.

JPMorgan is the largest provider of trust and fiduciary services in Europe:

- Over 1,500 funds in excess of USD one trillion in assets as of 2007 year-end
- Operates from seven global locations
- Provide consultative services, including

> "...we have built a set of solutions which we believe to be unique in the industry."

“JPMorgan has extensive experience of dealing with all of these approaches...”

regular bulletins

- Tailored monitoring programmes, including “desktop” checks
- Site visits to the asset management company, or their respective agents

Fund Accounting

The fund administrator is usually able to value the long portion of the fund using standard processes. However, the independent valuation of the 30/30 portfolio (as required by UCITS III) requires a significant product extension to provide valuation of synthetic instruments, reconciliation of positions and valuations to the prime broker of market events such as corporate actions or income accrual.

The models used can range from being almost wholly synthetic, using CFDs provided by a prime broker, or a hybrid of synthetic with a prime broker and physical long positions held by a global custodian.

JPMorgan has extensive experience of dealing with all of these approaches and the specific challenges that each one brings:

- Operating model that leverages our proven abilities in the administration of physical securities
- Using standard vendors source valuations, dividend rates and corporate actions terms
- Independent valuation of a synthetic CFD portfolio held with prime broker
- Strong relationships with the key prime brokers
- Full reconciliation of our accounting records to prime broker’s reporting systems
- Integrated with other JPMorgan products, such as Compliance Reporting Services
- Comprehensive portfolio reporting capabilities of our Web portal, JPMorgan ACCESS℠

Compliance Monitoring

Automated portfolio compliance and risk monitoring technology has become an essential part of the daily risk management process for fund managers, insurance companies, trustees and plan sponsors.

Many long/short funds are now required by their regulators to perform much of their compliance monitoring based on the global risk exposures / commitment approach or the even more onerous value-at-risk (VaR) approach. However, most in-house portfolio compliance and risk monitoring solutions fail to adequately cope with the monitoring requirements of these more sophisticated fund structures. Many solutions have failed to keep pace with regulatory changes over recent years and focus on the long-only checks based on net asset values, failing to look at the gross, or where appropriate, net risk exposures.

JPMorgan has developed a comprehensive compliance monitoring service for global risk exposure for long/short funds:

- System ‘looks through’ any derivative positions to the underlying assets
- Calculate the gross, or net risk exposures on a daily basis
- System logic that can net derivative positions
- Accepts third-party data feeds to load underlying basket derivatives positions from prime brokers
- Aggregates feeds to consider the effect of securities lending and derivatives collateral positions

Performance & Risk Measurement

A key element of long/short strategies is the setting of risk-adjusted performance objectives. This needs to clearly define the benchmark against which the fund will be measured, and set up appropriate risk limits per asset class, country, credit rating, etc. In order to do so, the benchmark needs to be clearly articulated.

Where external managers have been appointed it is important to manage individual performance for the selected strategy within the defined risk limits and track, not only the performance, but also the investment guidelines of the fund. Risk limits, as well as risk measures such as value-at-risk (VaR), provide information on how much risk the external manager is taking in order to beat the benchmark. Performance on its own would only tell one part of the story; risk analysis is crucial information needed to manage a long/short fund.

JPMorgan Investment Analytics offers flexible, customised solutions:

- Comprehensive reporting capabilities
- Our expert staff has extensive experience in measuring performance
- Over 6,500 institutional portfolios representing approximately $1.5 trillion in assets
- Diverse client list includes pension funds, asset managers, endowments, insurers and central banks

Management Solutions

Securities Collateral Management

Where shorting is achieved through the use of repos or securities lending positions, managers must consider collateralisation issues

JPMorgan provides:

- Proprietary engine to efficiently allocate collateral across a client’s obligations
- Internal collateral movements free of settlement risk, allowing instant satisfaction of obligations
- Optimisation of collateral inventory, leading to reductions in overall inventory required
- Sophisticated collateral testing ensuring allocation adheres to specified risk parameters
- Same-day reporting of positions and daily mark to market for compliance purposes
- Enhanced efficiency, reduced administration
- Flexibility for collateral takers and providers in respect of the acceptable instruments

Derivatives Collateral Management

Fund managers must manage the collateral needed to pledge to a securities lender or derivatives counterparty. The simplest solution may often be to appoint a third-party collateral management agent.

JPMorgan offers:

- Ability to accept equities into collateral management programme and deliver out cash
- Systems integrated with JPMorgan’s other products and services
- Rehypothecation structures that optimise use of funds collateral and minimise funding costs
- Integrated and secure operational environment offering full audit trail
- Robust framework to manage counterparty credit exposure

“Performance on its own would only tell one part of the story.”

To learn more about JPMorgan's solutions for long/short funds, contact:

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